

## ***A Blueprint for Pedestrian and Bicycle Safety***

### ***Background***

A bicycle and pedestrian community program should be designed to increase safety awareness and skills among pedestrians and bicyclists and should also address driver behaviors. A comprehensive program should include a minimum of three elements: 1) education, 2) enforcement, and 3) engineering.

***Education*** - Educational efforts may be designed to include the entire community or specific target groups. Educational efforts may include bicycle rodeos, school presentations, public service announcements and the distribution of pamphlets and posters to increase public awareness and education.

Targeting elementary age children with a bicycle safety program that incorporates pedestrian education is currently the most popular program design. Children aged 5-14 account for 23.4 percent of all pedestrian injuries, while representing only 14 percent of the United States population.

Older pedestrians aged 65 and over comprise 24.8 percent of all pedestrian fatalities while representing only 13 percent of the U.S. population. Therefore, it is important to consider a pedestrian safety program targeting the older pedestrian.

***Enforcement*** - Enforcement efforts can include safety helmet violations, speed enforcement and visible display radar trailer deployment near schools and areas of high pedestrian traffic. Several agencies have successfully implemented diversion programs for those cited for safety helmet violations. It is also appropriate to conduct occupant restraint and speed enforcement near schools during school commute hours.

***Engineering*** - Engineering includes developing a "Safe Routes to School" component to complement the elementary educational effort. This concept could be expanded to include senior communities. Development of community bikeway maps have also been successful. In some communities, observations of vehicles, pedestrians and bicyclist behaviors at school sites, have resulted in improvements to traffic flow lanes in school driveways and parking.

### ***Purpose***

This Blueprint helps agencies develop a comprehensive Pedestrian and Bicycle Safety project or proposal that not only meets the needs of your local community, but also addresses statewide goals set by the Office of Traffic Safety to reduce the incidence of bicycle and pedestrian fatalities and injuries.

The Blueprint provides practical steps to assess and identify pedestrian and bicycle collision problems in your community. Also, listed in this document are goals and objectives that provide qualitative performance measures for an effective pedestrian

and bicycle safety program. Not every agency will adopt every goal and objective, but each should be considered. Agencies may choose goals and objectives not listed in the Blueprint.

### ***Economic and Hospitalization Costs***

Use traffic fatality, injury, and property damage costs “to sell” traffic safety to your city’s decision-makers. In 2001, CHP Statewide Integrated Traffic Reporting System (SWITRS) reported the following estimated provisional economic costs: Fatality - \$2,709,000; Injured Severely - \$188,000; Other Visible - \$38,000; Complaint of Pain - \$20,000; and Property Damage Only - \$2,000.

### ***Problem Assessment***

Problem identification and the assessment of existing resources are important steps in the process of organizing community action. If the problem is defined with sufficient precision and the application of existing resources is understood, a feasible plan of coordinated action can be readily developed.

The following are some questions an agency should answer when assessing their current level of pedestrian and bicycle safety activity:

- What areas or locations in your city are dangerous to pedestrians and bicyclists?
- What pedestrian and bicycle safety programs are taught in your community to pre-school and K-12 children?
- Are there pedestrian safety programs in your community targeting older adults?
- Has your agency established a working relationship with your public works traffic engineering department/police department/school district/departments of public health?

### ***Problem Identification***

An analysis of traffic collision data is necessary to identify problems within the community. Agencies must provide: collision data to support their traffic safety problem; a description of the data used to identify the problem; and the source(s) of the information. Proposals and Project Agreements must include traffic data relative to the problem(s) discussed. Problem identification is a two step process.

***First Step*** - The first step is to compare your traffic collision data and applicable safety equipment usage surveys with statewide averages. The following 2001 CHP SWITRS provisional collision statistics are examples of statewide collision averages you might use to compare your agency to statewide averages.

- Children under the age of 15 accounted for 30.1 percent of pedestrian victims and 29 percent of bicycle victims (victims killed and injured).
- Pedestrians killed and injured represented 4.9 percent of all victims killed and injured.
- Bicyclists killed and injured represented 3.7 percent of all victims killed and injured.
- Safety helmet use was indicated in 14.7 percent of all killed bicyclists.
- Safety helmet use was indicated in 20.4 percent of all injured bicyclists.

OTS Collision Rankings provide you another resource for problem identification. OTS produces collision rankings for counties and cities with a population greater than 25,000 for the following categories: 1) total fatal and injury collisions, 2) alcohol involved collisions, 3) speed related collisions, 4) nighttime 9 p.m. - 3 a.m. collisions 5) hit-and-run collisions, 6) Had Been Drinking (HBD) Drivers <21, 7) HBD Drivers 21-34, 8) pedestrian victims, 9) pedestrian victims age 65 and older, 10) pedestrian victims <15, 11) bicyclist victims, 12) bicyclist victims < 15, 13) DUI arrests (cities only).

**Second Step** - Now that you have identified your disproportionate collision “type or category” i.e., pedestrian or bicycle involved etc., you are ready to proceed to the next step. *This critical part of the problem identification process involves reviewing actual collision reports to determine: who, what, where, when, why, and how.* Is the perceived traffic problem enforcement or engineering related? What factors contributed to the identified problem(s)? Once you have completed the problem identification process, you are ready to develop goals and objectives to address the identified problems.

### ***Proposal Review Process***

OTS reviews proposals against several specific criteria including: potential traffic safety impact; collision statistics; seriousness of the identified problem(s); previous grant performance; and the recent number of grants.

### ***Summary***

The following pages present a recommended problem identification process and a list of recommended goals and objectives. The “two-step” problem identification process helps identify traffic safety problem(s). The goals and objectives provide qualitative and quantitative performance measures for a comprehensive program. The sample goals and objectives listed in the BLUEPRINT were compiled from successful state and national programs.

Complete the problem identification process and consider the appropriate goals and objectives for the proposal or project. Agencies may add goals and objectives not listed in the Blueprint.

To reflect the best practices and information for achieving successful pedestrian and bicycle programs, OTS continually updates the BLUEPRINT. Comments are always welcomed on ways to improve this document. Contact an OTS Regional Coordinator with questions or comments.

## ***Performance Measures***

### ***Goals***

***Project Goals*** - Goals serve as the foundation upon which the project is built. Goal(s) are what you hope to accomplish by implementing a traffic safety grant program.

### ***Bicycle Safety Goals***

1. To reduce the total number of bicyclists killed and injured in traffic collisions \_\_\_ % from the 200\_ base year total of \_\_\_\_ to \_\_\_\_ by \_\_\_\_\_, 200\_.
2. To reduce the number of bicyclists killed and injured in traffic collisions under age 15 \_\_\_% from the 200\_ base year total of \_\_\_\_ to \_\_\_\_ by \_\_\_\_\_, 200\_.
3. To increase safety helmet compliance for children under age 18 by \_\_\_ percentage points from the 200\_ base year compliance rate of \_\_\_ % to \_\_\_\_ % by \_\_\_\_\_, 200\_.
4. To increase safety helmet compliance of bicyclists killed or injured in traffic collisions \_\_\_ percentage points from the 200\_ base year rate of \_\_\_% to \_\_\_% by \_\_\_\_\_, 200\_.

### ***Pedestrian Safety Goals***

5. To reduce the total number of pedestrians killed and injured in traffic collisions \_\_\_% from the 200\_ base year total of \_\_\_\_ to \_\_\_\_ by \_\_\_\_\_, 200\_.
6. To reduce the number of pedestrians killed and injured in traffic collisions under age 15 by \_\_\_ % from 200\_ base year total of \_\_\_\_ to \_\_\_\_ by \_\_\_\_\_, 200\_.
7. To reduce the number of pedestrians killed and injured in traffic collisions aged 65 and older \_\_\_ % from the 200\_ base year total of \_\_\_\_ to \_\_\_\_ by \_\_\_\_\_, 200\_.

## Objectives

**Project Objectives** - Objectives are the tasks or activities undertaken during the project period to make the goal(s) a reality. Objectives are designed to move you closer to achieving your overall goal(s).

1. To issue a press release announcing the kick-off of the project by \_\_\_\_\_, 200\_. The press release will be forwarded to OTS Public Information Officer at [pio@ots.ca.gov](mailto:pio@ots.ca.gov) and the OTS Regional Coordinator for approval prior to the release. Printed newspaper copies of the press release will be faxed or e-mailed to OTS.
2. To use the following standard language in all press and media materials:  
***“Funding for this program was provided by a grant from the California Office of Traffic Safety.”***
3. To e-mail to the OTS Public Information Officer at [pio@ots.ca.gov](mailto:pio@ots.ca.gov) and OTS Regional Coordinator at least one month in advance, a short description of any new traffic safety event or program.
4. To submit print clip articles **by 9 a.m.** to the OTS Public Information Officer by e-mail at [pio@ots.ca.gov](mailto:pio@ots.ca.gov) and OTS Regional Coordinator, or via fax at (916) 262-2960. Include publication name and date the article was published on all clips.
5. To e-mail all press releases or media advisories, alerts, and material to the OTS Public Information Officer at [pio@ots.ca.gov](mailto:pio@ots.ca.gov) and OTS Regional Coordinator for approval prior to their release.
6. To conduct a press conference or media event by insert date to kick-off or publicize the grant. OTS will be notified at least two week in advance of the grant kick-off event.
7. To use the Business, Transportation and Housing Agency, California Energy, and Office of Traffic Safety logos in all press and media materials when feasible and practical.
8. To conduct \_\_\_\_ classroom workshops impacting approximately \_\_\_\_ students by \_\_\_\_\_, 200\_.
9. To conduct \_\_\_\_ school-based rodeos at \_\_\_\_ schools impacting approximately \_\_\_\_ students by \_\_\_\_\_, 200\_. The rodeos will include a traffic simulation course to demonstrate the five leading causes of bicycle and pedestrian related collisions, and will serve as a training course for students.

10. To conduct \_\_\_\_ community-based rodeos impacting approximately \_\_\_\_ people by \_\_\_\_, 200\_. The target audience is families with school-aged children and neighborhood residents. The rodeos will include a traffic simulation course to demonstrate the five leading causes of bicycle and pedestrian related collisions.
11. To distribute and properly fit \_\_\_\_ safety Helmets to students and community members participating in rodeos. The safety Helmets will have a special sticker inside the helmet to distinguish OTS funded helmets.
12. To conduct approximately \_\_\_\_ safety helmet inspections and adjustments at school and community-based rodeos.
13. To work with \_\_\_\_ schools to designate a “safety helmet day.” Students will be encouraged to bring in their helmets for a class photo. Helmet experts will review the photographs to determine helmet misuse. Recommendations will be sent back to the parents with instructions on how to adjust the helmets for proper fit.
14. To conduct \_\_\_\_ traffic safety workshops for approximately \_\_\_\_ parents by \_\_\_\_, 200\_. Parent workshops will include discussions of current traffic laws and ordinances, on-going traffic problems in and around the school site, and ways to reinforce traffic safety education.
15. To identify students who were “saved by the safety helmet.” These bicyclists will be presented an award. Each case will be reported to OTS and a special note will be made of those cases that involve an OTS funded helmet.
16. To conduct OTS safety helmet usage surveys in March and September of each grant year.
17. To develop a program to encourage teachers to assign students to write letters to the newspaper editor, letters to parents, or essays on pedestrian and bicycle safety. Winners may be eligible to receive non-cash prizes.
18. To meet with newspaper “editorial boards” to promote pedestrian and bicycle safety articles.
19. To generate print and electronic media support by sending out monthly press releases and story ideas.
20. To work with the media to report safety helmet usage as a part of every collision.
21. To implement a data tracking system to identify bicycle and pedestrian traffic collisions and issues and to communicate the information on a regular basis to school officials, police department personnel, and other interested groups.
22. To establish a community Traffic Safety Committee to identify problem areas and provide program recommendations, and implementation by \_\_\_\_, 200\_.

23. To implement a public information campaign regarding pedestrian and bicycle safety issues targeting pedestrian and bicycle behaviors (and announcing increased enforcement, if applicable) by \_\_\_\_\_, 200\_.
24. To implement a public information campaign targeting drivers regarding bicycle safety and bicyclist behaviors by \_\_\_\_\_, 200\_.
25. To establish a comprehensive continuing public education program to reduce pedestrian and bicycle collisions by \_\_\_\_\_, 200\_.
26. To develop a safety program and materials to be adopted as an on-going program in \_\_\_\_\_ pre- and elementary schools reaching \_\_\_\_\_ children by \_\_\_\_\_, 200\_.
27. To establish a "Bicycle and Pedestrian Safety Priority" within the local police agency, which includes a commitment to enforcement of all bicycle laws.
28. To develop or obtain bicycle and helmet safety literature for distribution to local bicycle clubs, public safety fairs, bicycle shops and other venues by \_\_\_\_\_, 200\_.
29. To encourage engineers to conduct "walkability" audits to promote safer bicycle and pedestrian environments.
30. To work with the traffic engineers to locate environments that may be considered for traffic calming techniques or treatments by reviewing collision reports and conducting school and community transportation surveys.
31. To implement a speed compliance program in identified areas of high bicycle traffic by \_\_\_\_\_, 200\_.
32. To establish a diversion and/or parental notification program for bicyclists cited for not wearing a helmet (VC 21212) by \_\_\_\_\_, 200\_.
33. To distribute age specific and culture specific bicycle and pedestrian safety literature at each presentation and to locations frequented by children and parents. (Doctors offices, hospitals, clinics, community events etc.)
34. To assist \_\_\_\_\_ schools in the implementation of a safety helmet policy by \_\_\_\_\_, 200\_ /200\_.
35. To strongly emphasize enforcement of safety helmet laws (with a diversion or parental notification program) by \_\_\_\_\_, 200\_.

36. To develop and implement a public information campaign addressing pedestrian issues, targeting the driving population, senior citizens and diverse groups announcing increased enforcement by \_\_\_\_\_, 200\_.
37. To implement a speed compliance program in identified areas of high pedestrian traffic by increasing citations by \_\_\_ % from the 200\_ base year total of \_\_\_\_\_ to \_\_\_\_\_ by \_\_\_\_\_, 200\_.
38. To conduct a language assessment of the project's service area to determine needs for materials in languages other than English by \_\_\_\_\_, 200\_.
39. To develop an Operational Plan to establish the method of operation and the policies applicable to carry out the grant program by \_\_\_\_\_, 200\_. (Note - for enforcement agencies.)

## **Resources**

### ***NHTSA Publications (Free)***

- Law Enforcement Pedestrian Safety
- Planning Community Pedestrian Safety Programs
- Traffic Safety Materials Catalog (free pamphlets, posters and videos – some available in other languages)

To receive the above NHTSA publications and other NHTSA materials please write, phone, fax, or e-mail your request to:

NHTSA  
Traffic Safety Programs  
Washington, DC 20590  
Phone (202) 366-0910  
Fax (202) 366-7149  
<http://www.nhtsa.dot.gov/>

Also, contact the NHTSA Auto Safety Hotline by calling 888-DASH-2-DOT.

- Injury Data (hospital records)

Department of Health Services  
Injury Surveillance and Epidemiology Unit  
(916) 323-3642

- American Automobile Association

Northern California (415) 565-2305  
Southern California (213) 741-4485

- Statewide Integrated Traffic Records System (SWITRS)

California Highway Patrol  
(916) 375-2850